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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,881	11/01/2000	Kenichiro Suzuki	Q61326	1715

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12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/702,881

Applicant(s)

SUZUKI, KENICHIRO

Examiner

Paul D. Kim

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This office action is a response to the amendment filed on 9/20/2005.

Claim Objections

1. Claims 14, 15, 18 and 19 are objected to because of the following informalities:

Re. Claims 14 and 15: The phrase "at least one of said opposing surface of one of said stationary element and said substrate" as recited in line 3 of claim 14 and lines 2-3 of claim 15 needs to be revised. According to the limitation "forming a microstructure on said movable element and opposing surface of said stationary element" as recited in lines 7-8 of claim 13, the microstructure is formed on the movable element and the stationary element, not on the substrate.

Re. Claims 18 and 19: The phrase "...said movable element and at least one of said opposing surface of one of said stationary element and said substrate" as recited in lines 3-4 of claim 18 and lines 2-3 of claim 19 needs to be revised. According to the limitation "a microstructure formed on at least one of said opposing surface of said movable element and said stationary element" as recited in lines 11-12 of claim 16, the microstructure is formed on at least one of the movable element and the stationary element, not on the substrate.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13, 15, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (US PAT. 5,428,259).

Suzuki teaches a process of making a mechanical structure comprising steps of: forming a stationary element (231) having a stationary element electrode and a movable element (232) having a movable element electrode on a silicon substrate (234) as shown in Fig. 11, the movable element is formed to be separated from the surface of the semiconductor substrate and movable in a direction parallel to the surface of the substrate (such as moving right or left); and forming a microstructure (237) on the movable element and opposite surfaces of the stationary element as shown in Fig. 11 (see also col. 14, line 23 to col. 20, line 35).

As per claims 15, 16 and 19 Suzuki also teaches the process of making the microstructure by etching a semiconductor layer (222) to form the movable element and the stationary element with a gap in between and depositing the insulation layer on the movable element and the stationary element to form a microstructure shape as shown in Figs. 12(a)–12(e).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki.

Suzuki teaches that the microstructure is made of an insulating material such as an oxide film, nitride film or a compound film in order to perform the function of the lubrication. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the polysilicon as recited in the claimed invention because Applicant has not disclosed that the polysilicon as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Suzuki because the polysilicon as recited in the claimed invention would perform equally well such as oxide film performing function of lubrication between the movable element and the stationary element in Suzuki. Therefore, it would have been an obvious matter of design choice to modify the polysilicon of Suzuki to obtain the invention as specified in claims 14 and 17. In addition, after the depositing the oxide film, the oxide film is etched to form a microstructure shape as shown in Figs. 12(a)–12(e).

Response to Arguments

6. Applicant's arguments with respect to claims 13-19 have been considered but are moot in view of the new ground of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
Art Unit 3729